

WHAT IS CLAIMED IS:

1. A transgenic mouse whose somatic and germ cells comprise a disruption in an endogenous histamine H3 receptor, wherein said disruption is generated by targeted replacement with a non-functional histamine H3 receptor, and wherein said disruption results in said mouse having an insensitivity to amnesic effects of scopolamine as compared to wild-type histamine H3 receptor mice.
2. The mouse of claim 1, wherein said mouse is fertile and transmits the non-functional histamine H3 receptor gene to its offspring.
3. The mouse of claim 1, wherein the non-functional histamine H3 receptor gene has been introduced into an ancestor of the mouse at an embryonic stage by microinjection of embryonic stem cells into mouse blastocysts.
4. The mouse of claim 1, wherein the non-functional histamine H3 receptor gene has been introduced at an embryonic stage by microinjection of embryonic stem cells into a mouse blastocyst.
5. A method for producing a transgenic mouse whose somatic and germ cells comprise a disruption in an endogenous histamine H3 receptor gene, wherein said disruption is generated by targeted replacement with a non-functional histamine H3 receptor gene, said method comprising:
 - a) introducing a histamine H3 receptor gene targeting construct comprising a selectable marker into a mouse embryonic stem cell;
 - b) introducing the embryonic stem cell into a mouse blastocysts;
 - c) transplanting the blastocyst into a recipient pseudopregnant mouse;

- 5 d) allowing the blastocyst to develop to term;
- e) identifying a transgenic mouse whose genome comprises a disruption of the endogenous histamine H3 receptor gene in at least one allele; and
- 10 f) breeding the mouse of step (e) to obtain a transgenic mouse whose genome comprises a homozygous disruption of the endogenous histamine H3 receptor gene, wherein said disruption results in said mouse having an insensitivity to amnesic effects of scopolamine as compared to wild-type histamine H3 receptor mice.
- 15 6. The method of claim 5 wherein the introducing of step (a) is by electroporation or microinjection.
7. A cell isolated from the transgenic animal of claim 1.

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